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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,896	10/29/2003	Jang-Keun Oh	116511-00116	4509

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BLANK ROME LLP  
600 NEW HAMPSHIRE AVENUE, N.W.  
WASHINGTON, DC 20037

EXAMINER

BAHTA, ABRAHAM

ART UNIT PAPER NUMBER

1744

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,896

Applicant(s)

OH, JANG-KEUN

Examiner

Abraham Bahta

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/24/04, 01/26/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: 05/03/05,01/18/06,02/01/06, 04/13/04, 07/11/06.

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: On page 6, lines 16 and 20 the specification indicates reference number (9) is a flexible hose; however on page 7, line 20 it is indicated that reference number (9) is an air outlet. It is not clear what reference number (9) represents.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the air cleaner" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolf (USP 3,557,399).

Wolf teaches a vacuum cleaner including a brush (40) (col. 3, lines 74-75) and a canister vacuum cleaner/cleaner body (18) (col. 3, lines 14-20) wherein the vacuum cleaner further comprises a handle tube (68) (column 5, lines 9-14) interposed between the brush (40) and the cleaner body (18). As shown in figure 1 the handle tube (68) interconnects the brush (40) and the cleaner body (18) and is capable of letting air to flow through the tube. Wolf teaches the upper of the handle tube (68) is provided with a grip member, which grip member is adapted to be held by the handle of an operator. See col. 5, lines 52-56.

Claim 3: Wolf teaches the handle tube is provided with a plurality of lengthwise spaced finger recess(knurl). See col. 6, lines 27-35.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of DE 414228(herein after referred DE '228) and KR 1997-0032643 (hereinafter referred KR '643).

Wolf discussed above does not specifically mention a handle having a double bent; however, DE '228 teaches a hose, which incorporates double-angled air-ducting

tube (2) whose free end can be fitted to an extension pipe. The center section being a handgrip is ergonomically shaped with a flat structure. See Abstract.

KR '643 discloses an electric cleaner having a handle part tube wherein the handle is fluidly connected with a bent pipe of integral formation. See Abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a double bent to the handle of Wolf in order to provide an ergonomically shaped handle.

Claim 4: Wolf teaches the handle tube is provided with a plurality of lengthwise spaced finger recess (knurl). See col. 6, lines 27-35.

***Claim Rejections - 35 USC § 103***

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf as set forth for claim 1 above and further in view of Song.

Wolf is discussed above. Wolf does not require a cyclone dust collector installed on the hand tube; however, Song discloses that installing a cyclone dust collector on the handle tube of a vacuum in order to reduce the quantity of dirt collected in the main body of the cleaner and to prevent the deterioration of the suction force and the overload of the motor (column 2, lines 1-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have installed a cyclone dust collector on the handle tube in order to reduce the quantity of dirt collected in the main body of the cleaner and to prevent the deterioration of the suction force and the overload of the motor as shown in Song.

Claim 6: Song teaches the cyclone body (20) renders air flowing within the connecting tube and a dirt collecting tub (30) is connected to the cyclone body and it serves to form the whirlpool air current together with the cyclone body (20) and to collect the dirt separated from the air with centrifugal force by the whirlpool air current. See col. 7, lines 12-32.

Claim 7: Song teaches airflows to the cyclone body via an air inlet/suction port (11a) and a whirlpool air current/swirl current is generated inside the cyclone body and the dirt-collecting tub (30). Song further teaches by such a whirlpool air current, the dirt particles contained in the air are separated from the air and then descend, while the air is exhausted to the main body (1) of the cleaner via the air outlet/discharge port (12a) of the cyclone body (20). See col. 7, lines 15-27. Song additionally teaches a dirt-separating grill (50) is placed to be downwardly extended from the air outlet (12a). See col. 8, lines 30-41.

***Claim Rejections - 35 USC § 102***

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Wolf. Wolf teaches a vacuum cleaner including a brush (40) (col. 3, lines 74-75) and a canister vacuum cleaner/cleaner body (18) (col. 3, lines 14-20) wherein the vacuum cleaner further comprises a handle tube (68) (column 5, lines 9-14) interposed between the brush (40) and the cleaner body (18). As shown in figure 1 the handle tube (68) interconnect the brush (40) and the cleaner body (18) and is capable of letting air to flow through the tube. Wolf teaches the upper of the handle tube (68) is provided with a grip

Art Unit: 1744

member, which grip member is adapted to be held by the handle of an operator. See col. 5, lines 52-56.

***Claim Rejections - 35 USC § 103***

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf as set forth for claim 8 above and further in view of Song.

Wolf is discussed above. Wolf does not require a cyclone dust collector; however, Song discloses that installing a cyclone dust collector on the handle tube of a vacuum in order to reduce the quantity of dirt collected in the main body of the cleaner and to prevent the deterioration of the suction force and the overload of the motor (column 2, lines 1-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a cyclone dust collector to the device of Wolf in order to reduce the quantity of dirt collected in the main body of the cleaner and to prevent the deterioration of the suction force and the overload of the motor as shown in Song.

As to the limitation that installing a cyclone dust collector on the handle tube, Song discloses installing a cyclone dust collector on the handle tube of a vacuum in order to reduce the quantity of dirt collected in the main body of the cleaner and to prevent the deterioration of the suction force and the overload of the motor (column 2, lines 1-16).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abraham Bahta whose telephone number is (571) 272-



Art Unit: 1744

1532. The examiner can normally be reached on Monday - Tuesday; 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Bahta  
07/13/06



GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER